

Search Engines

Name: _____ Hour: _____

With an estimated **60 trillion¹ web pages hosted on 962 million websites²** currently online, you can spend a lifetime surfing the World Wide Web, following links from one place to another. Amusing perhaps, but not very efficient if you are after some specific information. In fact, one of the biggest complaints we hear concerns the difficulty of targeting information. Where do you start? Searching the Internet requires part skill, part luck and a little bit of art. Fortunately, a number of free online resources can help with the hunt.



You have probably heard of Google, Yahoo, Bing and other so-called Internet **search engines**. There are literally dozens of these tools to help you locate what you are looking for. The trick though, is understanding how they work, so you can use the right tool for the job.

Search engines breakdown into two categories -- directories and indexes. Directories, such as Yahoo, are good at identifying general information. They group websites together under similar categories, such as Internet tutorials, English universities and Paris museums. The results of your search will be a list of websites related to the subject you are searching for. If you are interested in locating the site for the Louvre museum, for instance, try using a directory.

Say you want more specific information, such as biographical information about Leonardo da Vinci. Web indexes are the way to go, because they search all the contents of a website. Indexes use software programs called **spiders** or **robots** that scour the Internet, analyzing millions of web pages and newsgroup postings, indexing all of the words.

Index based search engines also rank results by their order of relevancy -- the number of times the search terms you used appears in a document, or how closely the document appears to match a concept you have entered. This is a much more thorough way to locate what you want.

Regardless of which search engine you use, it really pays to find out the particulars of how it works. Take the time read the search tips on the respective sites. For instance, how does the engine handle searches that include more than one word? Most, but not all, engines return results that include any of the words. Because there is so much information online, you will usually want to limit the scope of your searches. How do you do this? This is a good point to digress a bit to talk about Boolean logic.

The English mathematician, George Boole, developed an algebra of logic, which has become the basis for computer database searches. Boolean logic uses words called operators to determine whether a statement is true or false. The most common operators are **AND**, **OR** and **NOT**.

These three little words can be enormously helpful when doing online searches. A few examples will show you why.

Searching...	Results in...
cable AND car	Documents with both words
cable OR car	The greatest amount of matches; documents with either word
cable NOT car	Documents about cable, but not about cable cars; a good way to limit the search.

The exact syntax each engine uses varies, so familiarize yourself with its unique properties. For example, if you are using Google you may wish to include quotation marks around your search topic if you want it to search for the exact phrase, such as "how to catch a fish". Google will also let you narrow search results down even farther by only showing you webpages updated in a specified time period or even by reading level! This is useful if you want to find articles on a topic that are more appropriate for a younger child to use on a report instead of something written for an adult audience.

Top 4 Search Engines

Google – www.google.com (1.1 billion users a month)

My personal favorite. Founded in 1996 by Larry Page and Sergey Brin when they were in college as part of a school project! Google is a directory that was designed for speed and accuracy. Although you don't see big ads on their pages, they sell 50 billion dollars' worth of ads a year! They handle 40,000 searches a second, which means they are used 1.2 trillion times a year!



Bing – www.bing.com (350 million users a month)

Although Bing was founded in 2009, it was simply a renamed version of MSN Search (among other names they used). It works just like Google and finds websites that match the criteria you specified.



Yahoo – www.yahoo.com (300 million users a month)

Yahoo was founded in 1994 by Jerry Yang and David Filo. They were attending college at Stanford University and started the search engine as a way to keep track of their favorite websites.



ASK – www.ask.com (245 million users a month)

Ask used to be called Ask Jeeves when it was founded in 1995. This search engine lets you just type in a regular question and it does the work for you. Even though it is not very popular compared to the other search engines, it still gets quite a bit of use each month.



¹ – www.google.com, ² – www.internetlivestats.com